

# EXHIBIT \_\_ (GH-1)



## Status of the V. C. Summer Units 2 & 3 Nuclear Power Plants

Presentation to the Electric Cooperatives of South Carolina  
Gary C. Jones, President of Jones Partners, Ltd.  
March 3, 2016





## Brief CV of Gary C. Jones

- ▶ 45+ years in the nuclear power industry
- ▶ 32 years with Sargent & Lundy (S&L) in Chicago, Illinois
- ▶ 16 years as an Owner/Senior Vice President of S&L
- ▶ 2 ½ years with the International Atomic Energy Agency (IAEA) in Vienna, Austria
- ▶ Led the design and engineering on 3 major nuclear power plants
  - ▶ LaSalle County (Commonwealth Edison)
  - ▶ Marble Hill (Public Service Indiana)
  - ▶ Braidwood (Commonwealth Edison)
- ▶ Provided engineering, design and consulting services to over 50 nuclear power plants in the United States
- ▶ Professional project experience in Armenia, Canada, China, El Salvador, Finland, Hungary, Mexico, South Korea and Ukraine as well as throughout the United States
- ▶ Retained by South Carolina Office of Regulatory Staff (ORS) since August 2011
- ▶ Registered Professional Engineer in Missouri and South Carolina



# A Very Good Idea in 2008

## Why?

- ▶ Updated NRC regulatory environment under 10 CFR 52, which allows for a combined license to both construct and operate a plant
- ▶ Modular Construction
- ▶ Certified Design
- ▶ Success in Asia
- ▶ Base Load Review Act (BLRA) in South Carolina
- ▶ Source of non-GHG emitting and diverse power
- ▶ Engineering, Procurement and Construction (EPC) Contract

# Experience Since 2008

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## Regulatory environment not as good as hoped

- ▶ Combined Construction and Operating License (COL) was delayed
  - ▶ 9 months until March 30, 2012
- ▶ "Build what you license vs. license what you build"
- ▶ Very strict literal compliance via NRC oversight
- ▶ License Amendment Requests (LARs)
- ▶ First plants through the Inspection, Tests, Analyses and Acceptance Criteria (ITAAC) process
- ▶ Not as much credit for previous experience in China as hoped
- ▶ Impact of changes from Fukushima accident



# Experience Since 2008

## Modular Construction

- ▶ Fabricators unable to reliably meet schedule and quality requirements
- ▶ Continuing design changes
- ▶ Inadequate constructability reviews
- ▶ Reassignment and de-scoping of fabricators

## Certified Design

- ▶ Not as complete as anticipated
- ▶ Lessons learned at Chinese and sister plants
- ▶ Compliance issues with codes, standards and commitments
- ▶ SCE&G requested changes



## Experience Since 2008

### Asian Schedules Could Not Be Duplicated

- ▶ More rigorous regulatory environment
- ▶ Construction productivity rates lower than planned

### BLRA Remains an Essential Element to Success

- ▶ Stable environment ensures project financing
- ▶ Independent study shows plant is still a positive

### Still a Source of Non-GHG Emitting Power

- ▶ More focus on this issue due to EPA 111d
- ▶ Diversity in power supply remains important



# Experience Since 2008

## EPC Contract

- ▶ Multiple Changes in Ownership
  - ▶ Westinghouse/Shaw Stone & Webster
  - ▶ Westinghouse/CB&I Stone & Webster
  - ▶ Westinghouse (with Fluor as a sub-contracted construction manager)
- ▶ Multiple Amendments
- ▶ "Change in Law" provision interpretation led to disagreements
- ▶ Designer vs. Constructor



## Current Status

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Most of the following information is taken directly from a December 9, 2015 SCANA presentation at the 2015 Wells Fargo Energy Symposium. Some information, including the photograph on the first slide, was taken from a presentation given by SCANA on its February 18, 2015 Fourth Quarter and Full Year 2015 Earnings Conference Call.

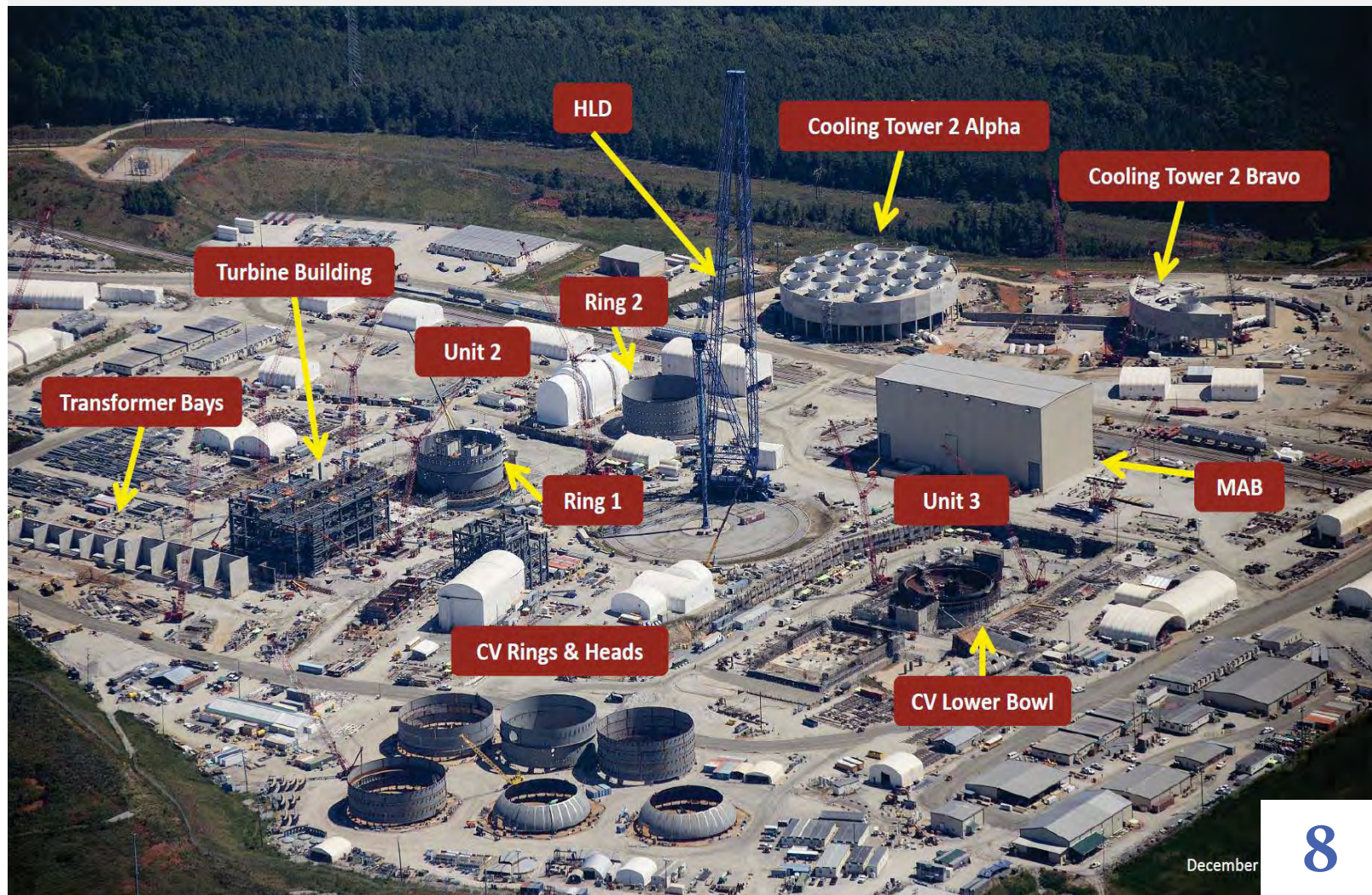
These presentations are available from the SCANA website at

[www.scana.com/investors/webcasts-presentations](http://www.scana.com/investors/webcasts-presentations)

# Site Overview

(Picture from September 2015)

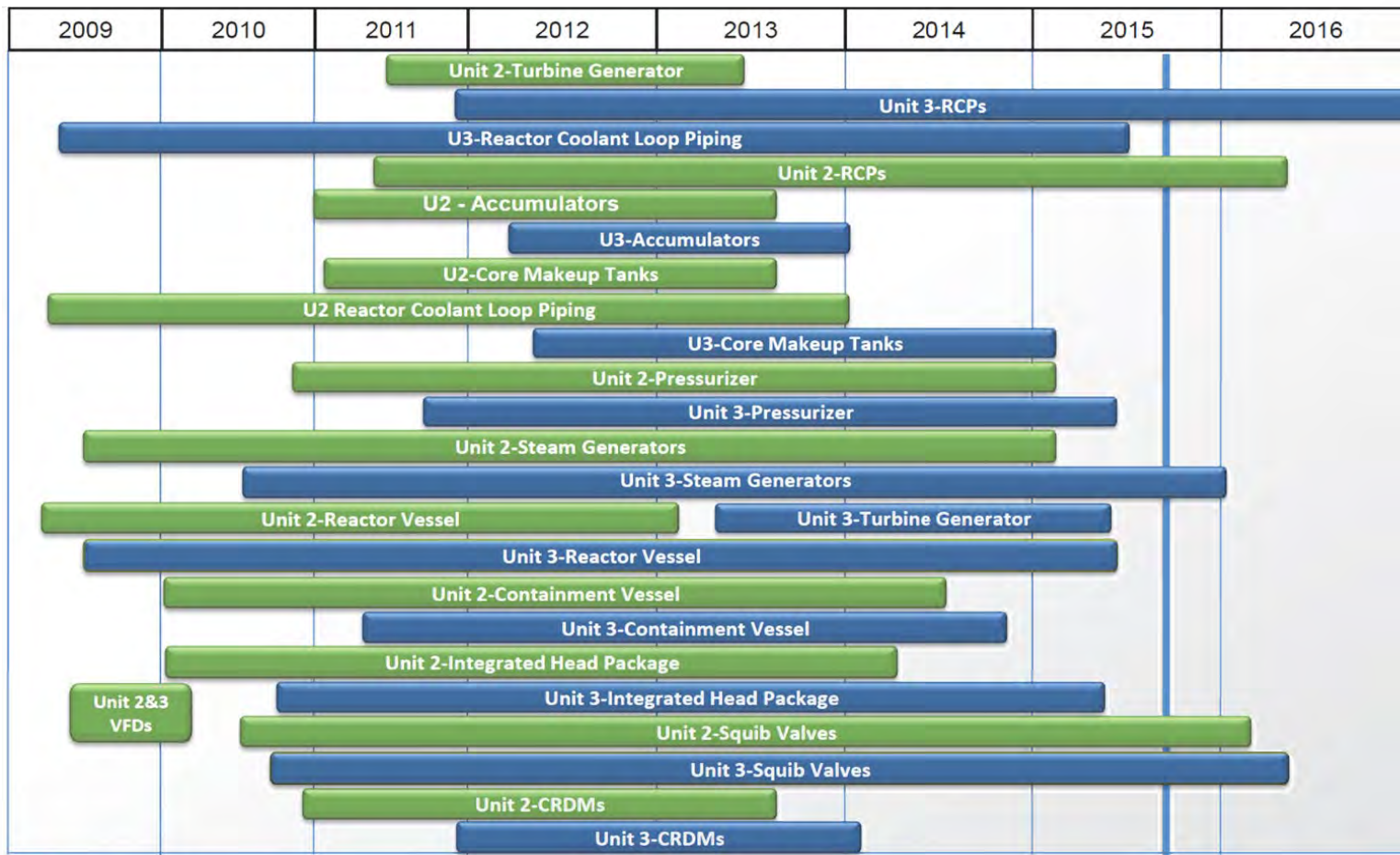
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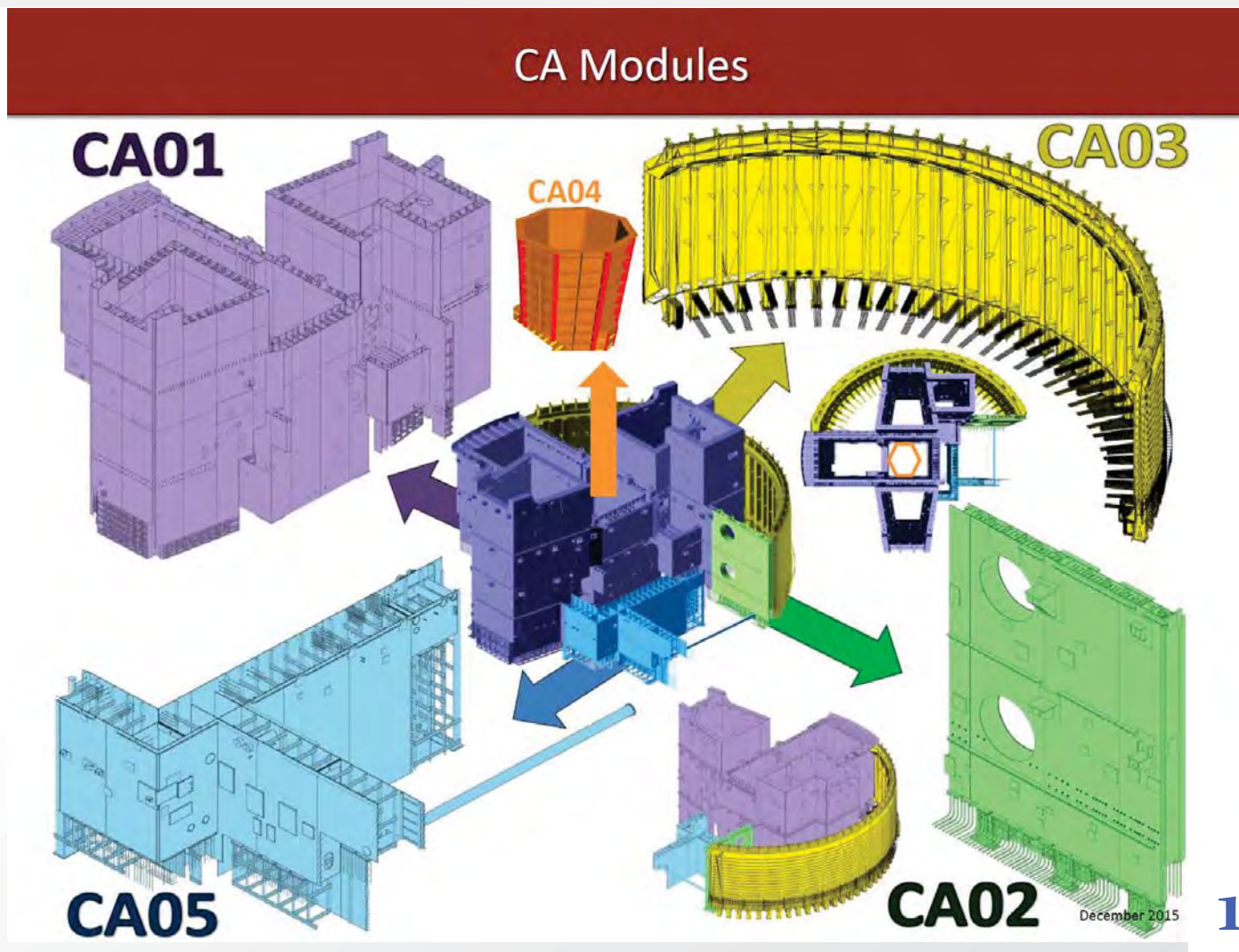
# Status of Major Equipment

ENR Mails 2016.Vol.1.002345



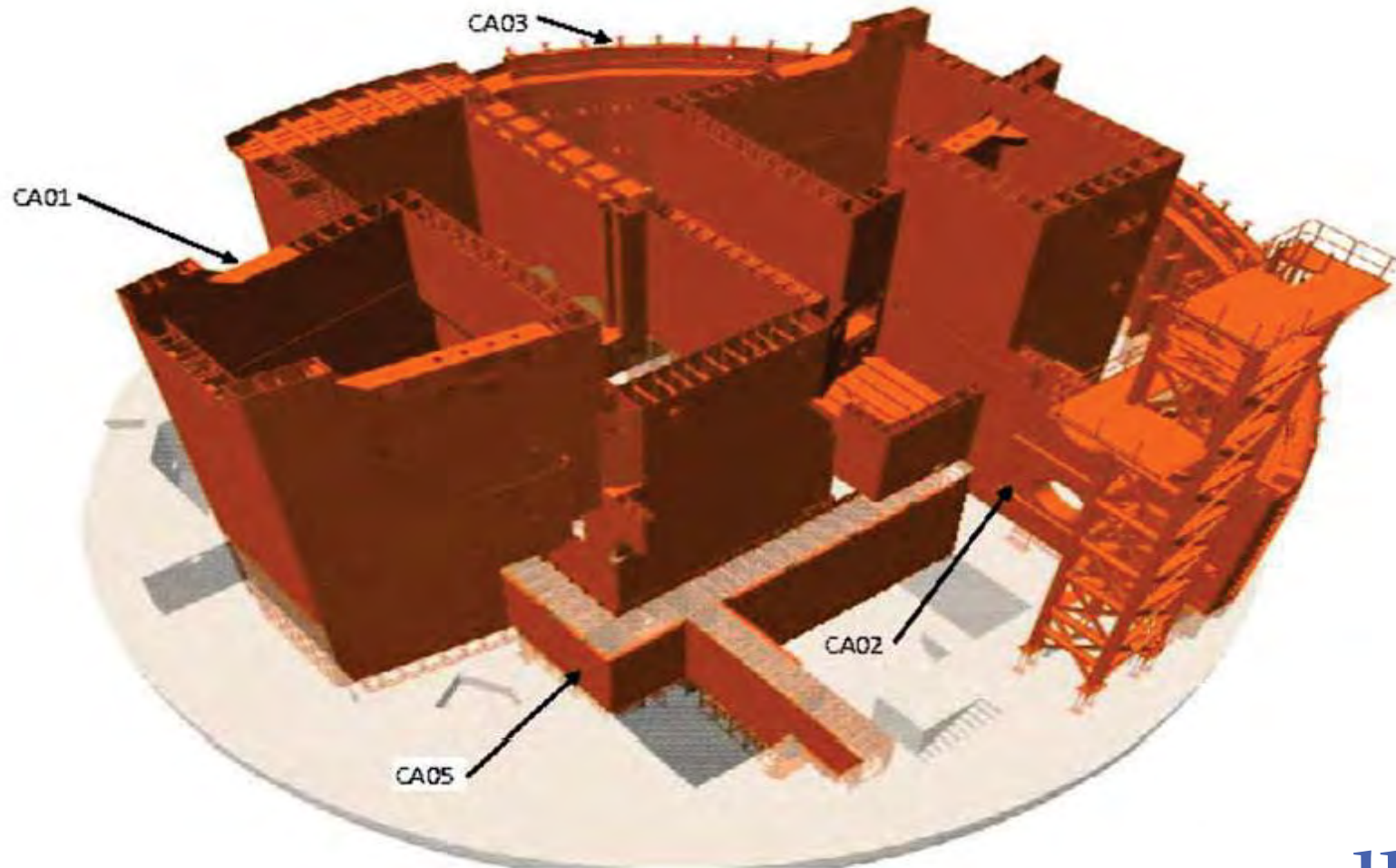
Current Position December

# “Big Five” Modules Inside Containment



## “Big Five” Assembled

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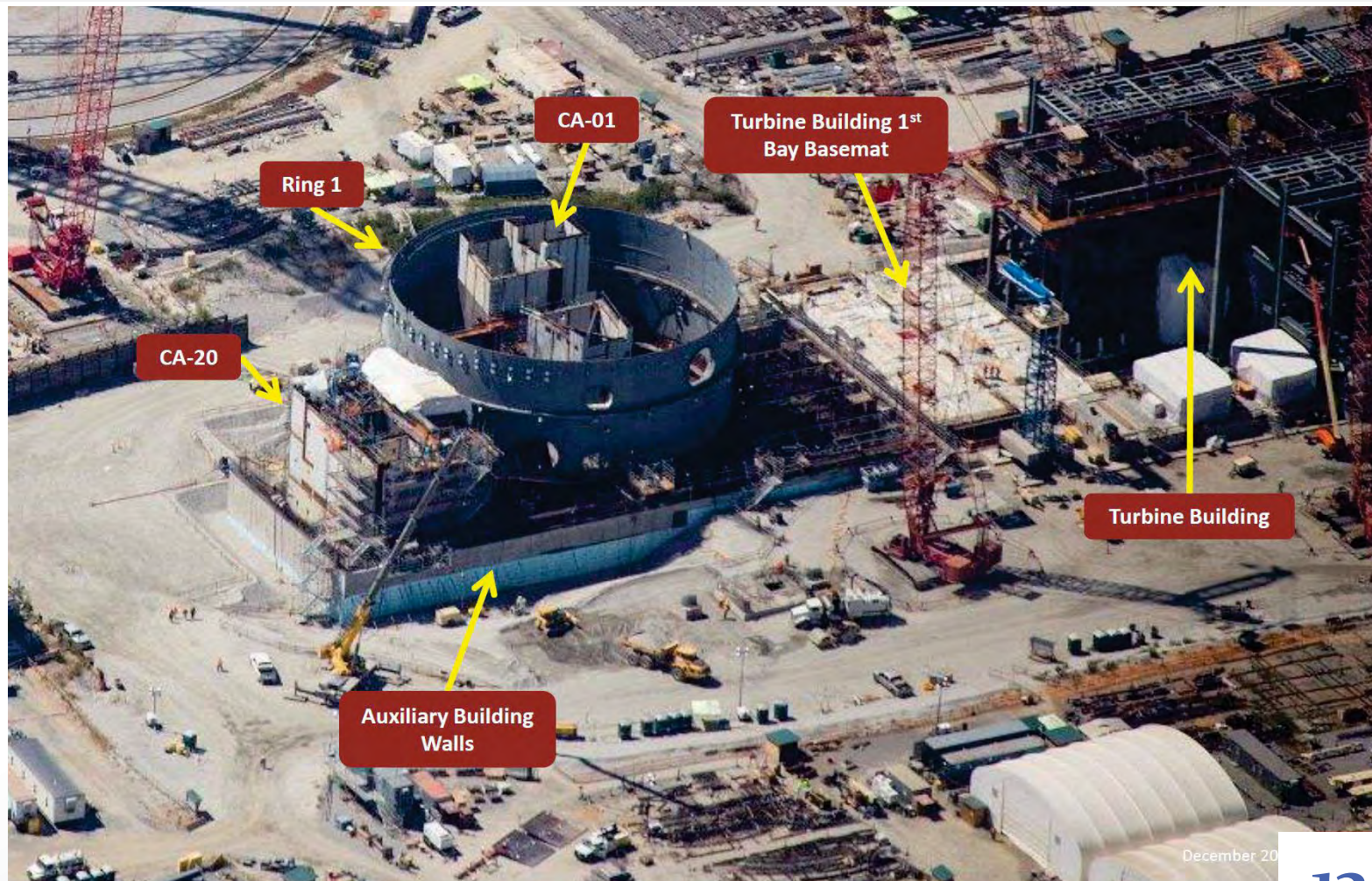
# Module Status

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	CA01	CA02	CA03	CA04 (No Concrete Required)	CA05	CA20
<b>Unit 2</b>	Installed  Concrete fill to be determined.	Assembly Completed	17/17 sub-modules on site.  12/17 sub-modules on assembly platen.  3 sub-modules under on-site repair.  Ready for hook June 2016.	Installed	Installed  Concrete fill to be determined.	Installed  Concrete fill is scheduled for April 2016
<b>Unit 3</b>	17/47 on-site.  6/47 on platen.  Ready for hook in November 2016.	0/5 on-site.	0/17 on-site.	Installed	Assembly Completed  Ready for hook in December 2016	68/72 on-site  22/72 on platen.  Ready for hook in April 2016.
	Inside of Containment					Outside of Containment

## Unit 2 Nuclear Island

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# Unit 3 Nuclear Island

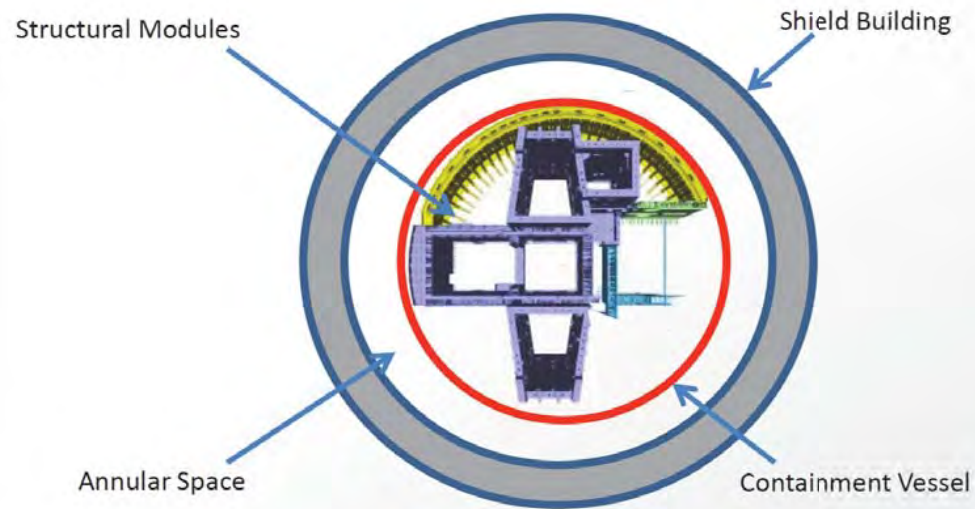
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December 2015



# Shield Building/Containment Vessel



## Unit 2 Shield Building Assembly



16

# Shield Building Panel Status

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## Unit 2

- ▶ 113/167 panels on-site
- ▶ Courses 01 and 02 installed and filled with concrete
- ▶ Course 03 installation underway
- ▶ 16 courses in total

## Unit 3

- ▶ 36/167 panels on-site
- ▶ None yet installed

# SCE&G's Settlement with the Consortium

	Order #2015-661 (Prior EPC)	Amended EPC	Fixed Price Option
Guaranteed Substantial Completion Dates	Unit 2 - June 2019 Unit 3 – June 2020	Unit 2 - August 2019 Unit 3 – August 2020	
Capital Cost (SCE&G 55% share)	\$5.247 billion	\$5.492 billion	\$6.757 billion
Future Escalation to Westinghouse as 6/30/2015*:	\$794 million	\$813 million	\$19 million*
Total Expected Project Cost (SCE&G 55% share)	\$6.827 billion	\$7.113 billion	\$7.601 billion
Liquidated Damages	\$155 million @ 100% \$86 million – SCE&G	\$926 million @ 100% \$509 million – SCE&G	\$676 million @ 100% \$372 million – SCE&G
Bonuses	Capacity Performance Related	Completion – Capacity Performance bonus removed \$550 million @ 100% \$303 million – SCE&G	
		\$300 million @ 100% \$165 million – SCE&G	
Change in Law Language	Generally defined	Explicitly defined – Formal written adoption of a new statute, regulation, requirement, or code or new NRC regulatory requirement that did not exist as of this amendment	

\*The Fixed Price Option, regardless of date of acceptance, would fix Project Costs and shift the risk of escalation (excluding escalation on owner's and transmission costs) to Westinghouse as of June 30, 2015. Total Gross Escalation recorded as of 6/30/2015 is \$386 million. Under the Fixed Price Option, Total Gross Escalation remaining on the project is estimated to be approximately \$145 million.





# Project Challenges

- ▶ **Transition Between EPC Contract Holders and Construction Management**
- ▶ **Modules, Modules, Modules!**
- ▶ **Shield Building Air Inlet Tension Ring and Roof Design**
- ▶ **Productivity**
- ▶ **Mechanical, Electrical and Instrumentation & Controls Installation**
- ▶ **Regulatory Compliance**
  - ▶ **License Amendment Requests (LARs)**
  - ▶ **ITAAC (873/unit required; 19 on U2 and 16 on U3 verified by NRC)**
- ▶ **Start-Up**
- ▶ **Operations and Support Staff Readiness**





# Conclusions

- ▶ Recent independent study indicates BLRA methodology reduces costs
- ▶ Still a diverse and non-GHG source of power
- ▶ Project faces significant, but not insurmountable, challenges
- ▶ Unit 3 will need substantial improvement in all areas to meet the date for federal tax credits
- ▶ Progress has been made in the general areas of the site and the turbine island
- ▶ Consolidation under Westinghouse is viewed positively by SCE&G
- ▶ Addition of Fluor should also be positive